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EXAMINER

HOSSAIN, TANIM M

ART UNIT	PAPER NUMBER
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2145

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/871,119	Applicant(s) DAVIE ET AL.	
	Examiner Tanim Hossain	Art Unit 2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,6,8-11,13,15-27 and 40-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,8-11,13,15-27 and 40-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 10, 11, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awadallah (U.S. 6,449,251) in view of Cisco Systems Incorporated (VoIP Call Admission Control Using RSVP), in further view of Kano (U.S. 6,453,349).

As per claim 1, Awadallah teaches a network device for use in a computer network carrying network traffic, the network comprising: a traffic scheduler having one or more resources for use in forwarding network traffic received at the device at different rates (column 3, line 61 – column 4, line 11; column 7, lines 7-10, 38-45); a classification engine configured to identify received network traffic based upon pre-defined criteria (column 4, lines 25-33); and a resource reservation engine in communicating relationship with the traffic scheduler and the classification engine (column 4, lines 35-40; where the guaranteed bandwidth constitutes the existence of a resource reservation engine in communication with the router and classification engine). Awadallah does not specifically teach the reservation of resources for a traffic flow, without allowing immediate access to the resources. Cisco Systems teaches the allocation by the resource reservation engine of one or more resources to the given traffic flow (page 1, lines 19-

21). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Cisco Systems in the system of Awadallah, because they are both from the same field of endeavor, namely the efficient routing of resources for network sessions. The motivation for combining the teachings lies in the fact that Cisco Systems' teaching adds further efficiency to Awadallah's invention by enabling a resource reservation request, which allows for efficient communications. Awadallah-Cisco does not specifically teach that the resources are not made available to the entities until the reservation engine receives an acknowledgement message in response to a reservation request. Kano teaches the requesting of resources, and withholding those resources until an acknowledgement message is sent to these resources, and then communication ensues (Abstract; column 2, lines 29-46; column 10, lines 55-60). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teaching of an acknowledgement message before resources are made available to the source and destination entities to a traffic scheduling system, as taught by Kano in the system of Awadallah-Cisco. The motivation for doing so lies in the fact that having a specific acknowledgement would further prevent the misallocation of resources, which would significantly reduce bottlenecks in the system. All inventions are from the same field of endeavor, namely the reservation of resources and network communications.

As per claim 2, Awadallah-Cisco-Kano teaches the network device of claim 1 wherein, in response to a second request to reserve resources, the resource reservation engine makes the one or more previously allocated resources available to the given traffic flow (Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60).

As per claim 10, Awadallah-Cisco-Kano teaches that in a computer network having a plurality of intermediate network devices having one or more resources for use in forwarding network traffic, a method for providing end-to-end resource reservations along a route between two or more entities, the method comprising the steps of: receiving a first resource reservation message at a given intermediate network device disposed along the network route, the first resource reservation message identifying a traffic flow between the two or more entities requesting a reservation of resources (Awadallah: column 5, lines 25-52); in response to receiving the first resource reservation message, allocating one or more of the device's resources for use in forwarding network traffic between the two or more entities (Awadallah: column 5, lines 53-56); and withholding the allocated resources from being applied to the traffic flow between the two or more entities until the plurality of intermediate network devices receive a message indicating that a destination entity transmitted a response to a source entity (Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60). Motivations to combine teachings are discussed in the treatment of claim 1.

As per claim 11, Awadallah-Cisco-Kano teaches the method of claim 10 further comprising the step of receiving a second resource reservation message for the traffic flow between the two or more entities (Awadallah: column 5, lines 25-52); and in response to receiving the second resource reservation message, making the allocated resources available for use in forwarding the traffic flow between the two or more entities (Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60; Cisco: page 1, lines 19-21).

As per claim 16, Awadallah-Cisco-Kano teaches a method for providing resource reservations along a route through a computer network between two or more entities, the method

comprising the steps of: generating a first resource reservation message identifying a traffic flow and requesting a reservation of resources (Awadallah: column 5, lines 25-52); configuring the first resource message to include a two phase reservation flag, and asserting the two phase reservation flag so that resources within the network will be allocated, but not made available to the identified traffic flow until a destination entity transmits a response message to the source entity (Cisco: page 1, lines 19-21; Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60; column 5, lines 54-55; column 7, line 66 – column 8, line 9).

As per claim 17, Awadallah-Cisco-Kano teach the method of claim 16 on the basis of obviousness, further comprising the steps of generating a second resource reservation message identifying the traffic flow (Awadallah: column 5, lines 25-52); configuring the first resource message to include a two phase reservation flag, and deasserting the two phase reservation flag so that the allocated resources are made available for application to the identified traffic flow (Cisco: page 1, lines 19-21; Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60).

As per claim 18, Awadallah-Cisco-Kano teaches the network device of claim 2, further comprising: a timer to measure a predetermined time period, wherein the resource reservation engine discards the resources if the second reservation message is not received prior to expiration of the predetermined time period (Cisco: page 2, lines 1-3).

As per claims 40 and 43, Awadallah-Cisco-Kano teaches a method for operating a router, comprising: receiving a first RSVP message transmitted by a source entity to a destination entity (Cisco: page 1, lines 16-23); allocating resources between the source entity and the destination entity, in response to the first RSVP message, and not making the resources available (Awadallah: column 5, lines 25-52; Cisco: page 1, lines 16-23; Kano: Abstract; column 2, lines

29-46; column 10, lines 55-60); receiving, after the destination entity rings, a second RSVP message from the destination entity; and making available the resources in response to receiving the second RSVP message (Awadallah: column 5, lines 25-52; Cisco: page 1, lines 16-23; Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60; where the ringing is indicative of an initial request, and in response, a message is sent so that the resources may be made available).

As per claim 41, 42, 44, and 45 Awadallah-Cisco-Kano teaches the method and router of claims 40 and 43 respectively, further comprising: including in the second RSVP message a phase reservation flag, and when the phase reservation flag is asserted, making available the resources that were allocated; and transmitting an intermediate RSVP message before the second RSVP message, from the destination entity to the source entity, reserving resources from the destination entity to the source entity (Awadallah: column 5, lines 25-52; Cisco: page 1, lines 16-23; Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60; column 7, line 66 – column 8, line 9).

As per claim 46, Awadallah-Cisco-Kano teaches a computer network, comprising: a source entity transmits a first RSVP message to a destination entity (Awadallah: column 5, lines 25-52; Cisco: page 1, lines 16-23; Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60; column 7, line 66 – column 8, line 9); a router allocates resources from the source entity to the destination entity, in response to the first RSVP message, and the allocated resources are not made available; the destination entity transmits a second RSVP message to the source entity; the source entity generates a ring signal; the destination entity transmits a third RSVP message in response to the ring signal; and the router makes available the allocated resources (Awadallah:

column 5, lines 25-52; Cisco: page 1, lines 16-23; Kano: Abstract; column 2, lines 29-46; column 10, lines 55-60; column 7, line 66 – column 8, line 9).

Claims 5, 6, 8, 9, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awadallah-Cisco-Kano in further view of Chiu (U.S. 6,744,767).

As per claim 5, Awadallah-Cisco-Kano-Chiu teaches the network device of claim 2, wherein: the resource reservation engine utilizes the Resource Reservation Protocol (RSVP) specification standard (Cisco: page 1, lines 16-23); and the first and second reservation requests are modified RSVP Reservation messages (Cisco: page 2, where the existence of the RSVP Reservation messages is obvious, based on the fact that communications between routers and calls are accomplished through the RSVP standard). All motivations to combine teachings are treated in the discussion of claim 1.

As per claim 6, Awadallah-Cisco-Kano-Chiu teaches the network device of claim 5, but does not specifically teach the use of flags to signify whether two reservation requests are made. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the limitation of alerting the network device that two reservation requests are made, such that the resources can then be rendered available. The use of flags used to alert the devices of certain states is well known in the art (as in Chiu, paragraph 74). The motivation for adding this functionality lies in the fact that the network device must “know” that a second request for resources has been made, and the flow can proceed to making the resources available, and thus there exists an obvious need for flags to alert the system of this.

As per claim 8, Awadallah-Cisco-Kano-Chiu teaches the intermediate network device of claim 4, wherein packets corresponding to the given traffic flow are forwarded by the device in a best efforts manner after receipt of the first request and prior to receipt of the second request (Awadallah: column 4, lines 38-41).

As per claim 9, Awadallah-Cisco-Kano-Chiu teaches the network device of claim 8 wherein packets corresponding to the given traffic flow are forwarded with the one or more allocated resources after the receipt of the second request (Awadallah: column 5, lines 53-56).

As per claim 13, Awadallah-Cisco-Kano-Chiu teaches the method of claim 11, wherein the first and second resource reservation messages are modified RSVP Reservation messages (Cisco: page 2, where the existence of the RSVP Reservation messages is obvious, based on the fact that communications between routers and calls are accomplished through the RSVP standard).

As per claim 15, Awadallah-Cisco-Kano-Chiu teaches the method of claim 11, but does not specifically teach the situation in which the steps of allocating resources, withholding resources, and making allocated resources available are performed at each intermediate network device disposed along the route between the two or more entities. It would have been obvious to one of ordinary skill in the art at the time of the invention to include this limitation, as the enablement of all components in a system to possess a certain characteristic is not patentably distinct.

Claims 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awadallah (U.S. 6,449,251) in view of Cisco Systems Incorporated (VoIP Call Admission Control Using RSVP), in further view of Jappila (RSVP – Nokia Telecommunications).

As per claim 19, Awadallah-Cisco teaches a router with means of identifying traffic flow requesting a reservation of resources (Cisco: page 1, lines 15-22, Awadallah: column 3, line 61 – column 4, line 11; column 7, lines 7-10, 38-45); allocating resources between two or more entities, but not making use of the them (Cisco: page 1, lines 15-22, Awadallah: column 3, line 61 – column 4, line 11; column 7, lines 7-10, 38-45); and means for making available the resources in response to a second resource reservation request (Cisco: page 1, lines 15-22, Awadallah: column 3, line 61 – column 4, line 11; column 7, lines 7-10, 38-45). Awadallah-Cisco does not specifically teach the use of messages to achieve this end. Jappila teaches the use of Resv and other RSVP messages (page 2) for use in allocating resources. It would have obvious to one of ordinary skill in the art at the time of the invention to include the use of messages to achieve resource allocation as taught by Jappila in the system of Awadallah-Cisco. The motivation for doing so lies in the fact that using messages would provide a good indicator of which routers need resources reserved. All inventions are of the same field of endeavor, namely the efficient time-sensitive communication through a network.

Claim 20 is rejected under Awadallah-Cisco-Jappila on the same basis as claim 19, as claim 20 discloses limitations similar to those of claim 19.

As per claim 21, Awadallah-Cisco-Jappila teaches a method for operating a router, comprising: generating a first resource reservation message identifying a traffic flow for which a resource reservation is requested along a network path between two entities; (Jappila: page 2);

and indicating by the first resource reservation message that resources within the network are requested to be allocated, but not made available to the identified traffic flow (Cisco: page 1, lines 15-22).

As per claim 22, Awadallah-Cisco-Jappila teaches the method of claim 21, further comprising: generating a second resource reservation message identifying the traffic flow; and indicating by the second resource reservation message that the allocated resources are to be made available for application to the identified traffic flow (Cisco: page 1, lines 15-22; Jappila: page 2).

As per claim 23, Awadallah-Cisco-Jappila teaches the method of claim 22, further comprising: discarding the resources upon expiration of a predetermined time period, if the second reservation message is not received prior to expiration of the predetermined time period (Cisco: page 2, lines 1-3).

As per claim 24, Awadallah-Cisco-Jappila teaches a router comprising: means for generating a first resource reservation message identifying a traffic flow for which a resource reservation is requested along a network path between two entities (Jappila: page 2); and means for indicating the first resource reservation message that resources within the network are requested to be allocated, but not made available to the identified traffic flow (Cisco: page 1, lines 15-22).

As per claim 25, Awadallah-Cisco-Jappila teaches the router of claim 24 further comprising: means for generating a second resource reservation message identifying the traffic flow (Jappila: page 2); and means for indicating by the second resource reservation message that

the allocated resources are to be made available for application to the identified traffic flow (Cisco: page 1, lines 15-22; Jappila: page 2).

As per claim 26, Awadallah-Cisco-Jappila teaches the router of claim 25, further comprising: means for discarding the resources upon expiration of a predetermined time period, if the second reservation message is not received prior to expiration of the predetermined time period (Cisco: page 2, lines 1-3).

As per claim 27, Awadallah-Cisco-Jappila teaches a computer readable media, comprising: the computer readable media having information written thereon, the information having instructions for execution on a processor for the practice of a method for providing resource reservations along a route between two or more entities, the method having the steps of generating a first resource reservation message identifying a traffic flow to request a reservation of resources in a network between two or more entities (Jappila: page 2); and indicating by the first resource reservation message identifying a traffic flow to request a reservation of resources in a network between two or more entities (Jappila: page 2); and indicating by the first resource reservation message that resources within the network will be allocated, but not made available to the identified traffic flow (Cisco: page 1, lines 15-22).

Response to Arguments

Applicant's arguments filed on March 21, 2006 have fully been considered, but are not persuasive.

a. Applicant's assertions regarding the claim amendments are respectfully traversed by the new grounds of rejection.

b. Applicant asserts that Awadallah-Cisco-Jappila does not teach the making available of resources in response to a second RSVP message being sent out. Examiner respectfully disagrees, in that Cisco teaches the disallowance of making available the resources, until communication is established in both directions. This may obviously be implemented in a variety of ways. One such way is by using the teachings of Jappila to transmit a second message to establish communication in both directions. Therefore, the combination of these teachings arrives at the claimed method of making available the resources in response to the transmittal of the second RSVP message. Further, this principle is well known in the art of resource reservation, with the Kano reference providing examples.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanim Hossain whose telephone number is 571/272-3881. The examiner can normally be reached on 8:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571/272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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